

1ST AND 2ND COLUMNS																										3RD AND 4TH COLUMNS																									
MATERIALS INDEX													PROCESSING AND PROPERTIES INDEX													CLASSIFICATION INDEX													OTHER INDEX												
Extracting sulfur from ores. P. M. Luk'yanov. Russ. 43,890, Aug. 31, 1935. The disintegrated ore is atomized downwardly in a shaft furnace and the S is burned in the lower section in a restricted supply of air. From the upper section are discharged the products of combustion and distn. (sublimation).																																																			
ASM-31A METALLURGICAL LITERATURE CLASSIFICATION																																																			
1ST AND 2ND COLUMNS																																																			

1ST AND 2ND COLUMNS										3RD AND 4TH COLUMNS									
PROCESS AND PROPERTIES INDEX																			
The production of sulfuric acid by the method of wet catalysts. P. M. Luk'yanov. J. Chem. Ind. (U. S. S. R.) 19, 1236-40(1937). — The prepn. of H_2SO_4 from SO_2 contg. H_2O obtained by oxidation of H_2S is reviewed. H. M. Leicester																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																			
FROM SYNDICATE										FROM MONITOR									
SYNDICATE										MONITOR									

MATERIALS INDEX		PROCESSING AND PROPERTIES INDEX	
<i>The Production of Electrolytic Cobalt Coatings Using Insoluble Anodes.</i> P. M. Luk'yanov and T. N. Berezova (Zhur. Priklad. Khimii (J. Applied Chem.), 1938, 11, (10/11), 1426-1431).—[In Russian.] The electrolyte used contained 504 gm. $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$ and 100 gm. Na_2SO_4 in one litre of water. The rapid increase in acidity which occurs during electrolysis has an unfavourable effect on the coatings. The acidity should not exceed pH 2.5. A graphite anode (anode: cathode area $\approx 2:1$) was used and was packed round with cobalt carbonate held together by a cloth diaphragm. Under these conditions excellent deposits were obtained, using current densities of 1-5 amps./dm.². Coatings 2-18 μ thick did not become detached from an iron anode when the latter was fractured by bending to and fro through 180°. The current efficiency approached 100% at an electrolyte temperature of 50° C. Coatings obtained in 10 minutes with current densities of 3-4 amps./dm.² and having a thickness of 7-12 μ had the remarkably low porosity of 1-2 pores/cm.², which is considerably better than nickel. A study of the polarization over an angular cathode showed that the throwing power of the bath increases with temperature and falls off with increasing current density. It is not markedly affected by stirring the bath.—A. B.		ASAC-5LA METALLURGICAL LITERATURE CLASSIFICATION	

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The electrochemical preparation of potassium permanganate. I. Direct preparation from pyrolusite and manganese alloys. P. M. Luk'yanov and N. G. Bakhtsvalis'van. *J. Applied Chem.* (U. S. S. R.) 12, 321-32 (in French, 1939, 1940). The electrolysis of pyrolusite in fused KOH, at temp. not below 100°C, yielded not over 10% theory of manganate. A hollow Ni gauze anode bag filled with pyrolusite yielded manganate. But no manganate was obtained in aq. soln. of KOH. In all expts., Ni was anode and Fe cathode. The anode potential very slightly depended on the ratio of pyrolusite to KOH. Electrolysis with an excess of KOH prevented the electrochem. oxidation of manganate to permanganate. Electrolysis with an asbestos diaphragm and a ferromanganese (90% of Mn) anode and 1.5% KOH or 12.5% K_2CO_3 aq. soln. as electrolyte yielded 50-75% of permanganate. The current yield was better for the K_2CO_3 soln. The formation of film, probably Fe and Mn oxides, on the ferromanganese anode hampered the electrolysis. Twenty-two references. II. Preparation from silicomanganese. *Ibid.* 333-34 (in French, 1945).—The prepn. of permanganate by electrolysis with a silicomanganese anode, a porcelain or asbestos diaphragm gave a better yield for K_2CO_3 electrolyte than for KOH electrolyte. Thus, with the optimal concn. of KOH (50 g./l.) at the optimal c. d. of 15 amp./sq. in. the current yield was 19.3% at 25-30° and 15% at 60-70°, and with the opti-

mal concn. of K_2CO_3 (1.5 g./l.) under conditions being the same, the yield was 2.0% and 20.1% resp. The electrolysis without diaphragm yielded with KOH soln. only manganate (19%) and with K_2CO_3 soln., permanganate with some manganate admixed (total 20.9%). The SiO_2 film was formed on the anode only at low concn. of electrolytes and at high c. d. However, the superimposition of a c. prevented film formation at the higher c. d. Thus, by using d. c. 10 amp./sq. in. and a c. 0.5 amp./sq. in. the yield was 11.8% at 25-30°, without diaphragm and K_2CO_3 soln. With d. c. 25 amp. and a c. 5 amp. the current yield was 16%. A. A. Podgorny

[illegible]

1ST AND 2ND COVER		PROCESSES AND PROPERTIES		100 AND 4TH COVER	
M		*Zinc Plating of Sheet Iron. P. M. Luk'yandov and V. V. Belostotskaya (Trudy Moskor. Khim. Tekhn. Ind. im. Mendeleeva, 1940, (8), 76; and Stal, 1941, (5), 37-40; Khim. Referat. Zhur., 1941, 6, (6), 92; U. Abs., 1943, 37, 6558).—[In Russian.] Good zinc plating on iron from acid solutions is possible. The optimum conditions for the process are: 25-30 gm./litre H_2SO_4, c.d. 5-7 amp./dm², temperature 30° C. The method was checked under plant conditions. The zinc plate adhered well to the iron, the number of pores was small, and the corrosion-resistance high.		8	
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION					
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GROUPS		10000 WED ONE ONE		021137 ONE ONE	

1ST AND 2ND CODES										3RD AND 4TH CODES									
PROCESSES AND PROPERTIES INDEX																			
<i>Ca</i> 18 Obtaining manganous diacid phosphate from apatite, sulfuric acid and manganese slag. P. M. Luk'yanov and K. M. Soldadze. <i>J. Chem. Ind.</i> (U. S. S. R.) 17, No. 10, 19-24 (1940). — MnO_2 slag is reduced to MnO by CO. Apatite and H_2SO_4 are mixed to form H_2PO_4 and after filtration of $CaSO_4$, the soln. is treated with the MnO at 80° for 1.5 hrs. to give 98% decompn. to $Mn(H_2PO_4)_2$. Crystn. of $CaSO_4 \cdot 2H_2O$ from the mixt. is not affected by the presence of Mn. Excess H_2SO_4 is removed with $BaCO_3$ and the mixt. is evapd. in a 1-stage crystallizer to give $Mn(H_2PO_4)_2$. Drying the crystals above 100° raises their oxidation. H. M. Leicester																			
A.S.T.M. METALLURGICAL LITERATURE CLASSIFICATION																			
1ST AND 2ND CODES										3RD AND 4TH CODES									

PROCESSES AND PROPERTIES INDEX

176 AND 178 (PAGES)

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18

Production of potash in Russia in the XVII-XVIII century. P. M. Luk'yanov. *Uspekhi Khim.* 16, 636-40 (1947). N. Thon

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

LUK'YANOV, PAVEL MITROPANOVICH

Istoriya Khimicheskikh Promyslov i Khimicheskoy Promyshlennosti Rossii do Knstva XIX Veka
[History of Chemical Enterprises and of the Chemical Industry Of Russia to the End of the
19th Century.] Pod. Red. Semen Isaakovich Vol'fkovich. Moskva, Izd-vo Akademii Nauk
SSSR, 1948- v. (v.-p.) illus., ports., maps, diagrs., tables.

At head of title: Akademiya Nauk SSSR. Otdeleniye Khimicheskikh Nauk i Institut Istorii
Yestestvovedeniya. Lib. Has: v. 3

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2

Unknown documents of D. I. Mendeleev relative to his
work on pyrocellulose powder. P. M. Luk'yanov. *Uspe-*
hi Khim. 10, 370-82 (1960). N. Thon

1951

LUK'YANOV, P. M.

Science

History of chemical trades and the chemical industry in Russia to the end of the 19th century, Moskva, Izd-vo Akademii nauk SSSR., Vol. 3, 1951

Monthly List of Russian Accessions, Library of Congress, March 1952. Unclassified

LUK'YANOV, P. M.
Gen. 18, 1948
Apparatus and
Unit Operations.

P. A. Il'enkov. P. M. Luk'yanov. *Uspekhi Khim.* 20, 784-8 (1951). Biography and account of scientific work of Il'enkov on the occasion of the 100th anniversary of publication of his text "The Course of Chemical Technology." Portrait. G. M. Kosolapov

①
8-31-54 Chem
ggp

1. LUK'IANOV, P. M. Prof.
2. USSR (600)
4. Bezborodov, M. A.
7. Valuable book "Sketches on the history of Russian glass making." M.A. Bezborodov.
Reviewed by Prof. P. M. Luk'ianov. Stek. i ker. 10, no. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

LUK'YANOV, P.M. [author]; MUSABEKOV, Yu.S. [reviewer].

"History of chemical technology and chemical industry in Russia to the end of the XIX century, vol.3." P.M.Luk'ianov. Reviewed by Yu.S.Misabekov. (MLBA 6:8)
Zhur.prikl.khim. 26 no.8:895-896 Ag '53.
(Chemistry, Technical) (Chemical industries) (Luk'ianov, Pavel Mitrofanovich, 1889-)

UCHASTKINA, Zoya Vasil'yevna; LUK'YANOV, P.M., professor; RYUKHIN, N.V.,
redaktor; GRODNITSKAYA, Ye.M., redaktor izdatel'stva; VOLKHOVER,
R.S., tekhnicheskiy redaktor

[Russian papermaking technology] Russkaia tekhnika v proizvodstve
bumagi. Pod red. P.M.Luk'ianova. Moskva, Goslesbumizdat, 1954.
145 p. (MLRA 10:3)

(Paper industry--History)

PAVLOV, B.A.; SOLOV'YEVA, A.S.; LUK'YANOV, P.M., professor, redaktor;
KLESHCHEVA, Ye.P., redaktor; SHIKIN, S.I., tekhnicheskii redaktor

[Technology of inorganic materials] Tekhnologiya neorganicheskikh
veshchestv. Pod red. P.M. Luk'ianova. Moskva, Gos. uchebno-pedagog.
izd-vo Ministerstva prosveshcheniia RSFSR, 1954. 174 p. (MLRA 7:8)
(Chemicals--Industry)

LUK'YANOV, P.M.

A.N.Radishchev and chemistry. Trudy Inst. ist. est. i tekhn.
no.2:158-167 '54. (MIRA 8:9)
(Radishchev, Aleksandr Nikolaevich, 1749-1802)

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(Lomonosov, Mikhail Vasil'evich, 1711-1765)
(Dyes and dyeing —History)

LUK'YANOV, P.M.

P.A.Il'enkov, the outstanding Russian chemist and technologist.
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(Il'enkov, Pavel Antonovich, 1821-1877)

LUK'YANOV, P.M.; VOL'FIKOVICH, S.I., akademik, redaktor; KATRENKO,
D.A., redaktor; AUZAN, N.P., tekhnicheskii redaktor.

[History of the chemical trades and the chemical industry in
Russia to the end of the 19th century] Istoriiia khimicheskikh
promyslov i khimicheskoy promyshlennosti Rossii do kontsa
XIX veka. Pod red. S.I.Vol'fkovicha. Moskva, Izd-vo Akademii
nauk SSSR. Vol.4, 1955. 621 p. (MLRA 8:12)
(Chemistry, Technical--History)

RYABOVA, D.I., zasluzhennaya uchitel'nitsa shkoly RSFSR; LUK'YANOV, P.M.
professor.

Handbook for practical studies ("Training models of industrial chemical equipment." D.A.Epshtein, S.A.Shurkin. Reviewed by D.I.Riabova, P.M.Lukk'ianov). Khim. v shkole 10 no.1:73-74 Ja-F '55. (MIRA 8:4)
(Chemical engineering--Study and teaching) (Epshtein, David Arkad'evich, 1898-) (Shurkin, S.A.)

LUK'YANOV, P.M.

USSR/General Problems.

A-

Abs Jour : Ref Zhur - Khimiya, No 10, 1957, 33391

Author : Luk'yanov, P.M.

Inst :

Title : On the Unknown Letters by J. Liebig to P.A. Il'yankov.

Orig Pub : Tr. in-ta istoriyi yestestvozn. i tekhn. AN SSSR, 1956,
12, 353-359.

Abstract : The content of six letters (years 1861-1871) stored in
the memorial museum, named Timiryazyev in Moscow, is
given.

Card 1/1

LUK'YANOV, P.M., professor.

Paints of old Russia. Priroda 45 no.11:77-82 H '56. (MLRA 9:11)
(Paint)

LUK'YANOV, P.M.

CHERNYAK, Yakov Naumovich; LUK'YANOV, P.M., doktor tekhn.nauk, prof., red.;
KIZEL'SHTYIN, D.S., red.; BYKOVA, V.Ya., tekhn.red.

[History of brick manufacturing in Russia, from the 10th to the
beginning of the 20th century] Ocherki po istorii kirpichnogo proiz-
vodstva v Rossii (X - nachalo XX vekov). Pod obshchei red. P.M.
Luk'ianova [Moskva] Gos. izd-vo lit-ry po stroit. materialam,
1957. 166 p. (MIRA 11:5)
(Brickmaking)

LUK'YANOV, P.M.

LUK'YANOV, P.M.

Letter from D.I. Mendeleev to A.I. Studzinskii. Vop. 1st. est. 1
tekh. no.3:190-194 '57. (MIRA 11:1)
(Mendeleev, Dmitrii Ivanovich, 1834-1907)
(Studzinskii, Aleksandr Ivanovich)

LUK'YANOV, P.M.

Nicolas Leblanc. Vop.1st.est. i tekhn. no.5:74-80 '57.

(MIRA 11:2)

(Leblanc, Nicolas, 1742-1806)

LUK'YANOV, P.M.

Establishment of the synthetic nitric acid industry in Russia.
Trudy inst. ist. est. i tekhn. 18:385-397 '58. (MIRA 11:10)
(Nitric acid)

LUK'YANOV, Pavel Mitrofanovich; VOL'FKOVICH, S.I., akademik, otv.red.;
BANKVITSER, A.L., red.izd-va

[Brief history of the chemical industry of the U.S.S.R.; from
the beginning of the chemical industry in Russia to the present
day] Kratkaia istoriia khimicheskoi promyshlennosti SSSR; ot
vozniknoveniia khimicheskoi promyshlennosti v Rossii do nashikh
dnei. Moskva, Izd-vo Akad.nauk SSSR, 1959. 463 p. (MIRA 12:10)
(Russia--Chemical industries)

LUK'YANOV, P.M., professor

Conference of the workers of the nitrogen industry. Khim.nauka
1 prom. 4 no.6:795-796 '59. (MIRA 13:8)
(Nitrogen--Congresses)

LUK'YANOV, P.M.

History of the fixation of atmospheric nitrogen in Russia. Trudy
Inst.ist.est.1 tekhn.30:301-306 '60. (MIRA 13:8)
(Nitrogen--Fixation)

LUK'YANOV, P.M., prof.

Conference on the full utilization of pyrite cinders. Shur.
VKHO 5 no. 3:339-341 '60. (MIRA 14:2)
(Pyrites--Congresses)

LUK'YANOV, Pavel Mitrofanovich, prof., doktor tekhn.nauk; VOL'FKOVICH,
S.I., akademik, red.; BANKVITSER, A.L., red.izd-va; MAGANOVA,
I.A., tekhn.red.

[History of chemical trades and of the chemical industry in Russia
up to the end of the 19th century] Istoriiia khimicheskikh pro-
myslov i khimicheskoi promyshlennosti Rossii do kontsa XIX veka.
Pod red. S.I.Vol'fkovicha. Moskva, Izd-vo Akad.nauk SSSR.
Vol.5. 1961. 703 p. (MIRA 14:6)

(Explosives)

LUK'YANOV, P.M., doktor tekhn.nauk

Complete utilization of roasted pyrite. Zhur.VKHO 7 no.1:32-34
'62. (MIRA 15:3)

(Pyrite)

LUK'YANOV, P.M., prof.

Conference of workers of the nitrogen industry. Zhur.VKHO 7
no.1:105-106 '62. (MIRA 15:3)
(Nitrogen industries--Congresses)

LUK'YANOV, P.M., prof.

Branch Conference of Workers of the Industry of Sulfuric Acid and
Phosphorus Fertilizers. Zhur.VKHO 7 no.2:223-225 '62.

(MIRA 15:4)

(Fertilizer industry--Congresses)

ZNACHKO-YAVORSKIY, Igor' Leonidovich; LUK'YANOV, P.M., zasl. deyatel'
nauki i tekhniki, doktor tekhn. nauk, prof., otv. red.;
LUPPOV, S.P., red. izd-va; SMIRNOVA, A.V., tekhn. red.

[Outline history of binding substances from oldest times to
the middle of the 19th century] Ocherki istorii viazhushchikh
veshchestv ot drevneishikh vremen do serediny XIX veka. Mo-
skva, Izd-vo AN SSSR, 1963. 496 p. (MIRA 16:12)
(Bending materials)

LUK²YANOV, P.M.

History of saltworks in the region of Moscow in the 17th
century. Trudy Inst.ist.est.i takh. 39:266-271 '62.

(MIRA 16:2)

(Moscow--Salt industry)

LEKAYE, Vladimir Mikhaylovich; YELKIN, Lev Nikolayevich; LUK'YANOV,
P.M., prof., red.

[Physicochemical and thermodynamic constants of elementary
sulfur] Fiziko-khimicheskie i termodinamicheskie konstanty
elementarnoi sery. Moskva, Mosk. tekhnolog. in-t im. D.I.
Mendeleeva, 1964. 160 p. (MIRA 1813)

LUK'YANOV, Pavel Mitrofanovich, doktor tekhn. nauk, prof.;
VOL'FKOVICH, S.I., akademik, red.; GULEVA, K.A., red.

[History of the chemical trade and chemical industry of
Russia] Istoriiia khimicheskikh promyslov i khimicheskoi
prozhyshlenosti Rossii. Vol.6. 1965. 479 p.
(MIRA 18:3)

LUK'YANOV, P.M., prof.

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(MIRA 18:11)

1. LUK'YANOV, P. N.
2. USSR (600)
4. Agricultural Machinery
7. False orientation of Prof. P. G. Naidin. Sov.agron no. 11, 1953.

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

GORBATSEVICH, S.V.; MYULLER, V.V.; LUK'YANOV, P.N.

Current balance and determination of the value of the volt standard.
Trudy VNIIM no.31:5-18 '57. (MIRA 11:11)
(Electric standards)

KUZNETSOV, S. K., LUK'YANOV, P. S.

Volga-Don Canal

New life of Il'yevka. Nauk i zhi-n' 19 no. 5, 1952.

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~~LUK'YANOV, P.S.~~

The Communist Party and public health. Zdorov'e 4 no.12:1-2 D '58
(MIRA 11:12)

1. Sekretar' Voronezhskogo oblastnogo komiteta Kommunisticheskoy
Partii Sovetskogo Soyusa.
(PUBLIC HEALTH)

May/Jun 55

USSR/Astronomy - Aberration of Light

LUK'YANOV, S.B.

"Aberration of Light," S. B. Luk'yanov

Astron Zhur, Vol 30, No 3, pp 302-314

~~An article written on the order of a general discussion.~~ Claims a small, difficult-to-measure, nonlinear effect in the aberration of light. States that, despite the fundamental assertion of relativity theory (namely, ^{the} impossibility of measuring ^{and} absolute motion), the problem of Earth's motion in space is theoretically solvable and represents an urgent problem of physics and astronomy.

001790

LUK'YANOV, S.G., inzh.-mekhanik

Modernizing the power plant of the tanker "Sakhalin." Biul.
tekh.-ekon.inform. Tekh. upr. Min. mor. flota 7 no.5: (MIRA 16:3)
49-54 '62. (Marine engines) (Tank vessels)

PRUSAKOV, M.B., inzh.; KUSTOV, V.M., inzh.; BARANOV, L.A., inzh.;
~~LUK'YANOV, S.I., inzh.~~; FROLOV, V.S., inzh., retsenzent;
USENKO, L.A., tekhn. red.

[Operation and repair of the equipment of d.c. traction
substations] [ekspluatatsiia i remont oborudovaniia tiago-
vykh podstantsii postoiannogo toka. [By] M.B. Prusakov i dr.
Moskva, Transzheldorizdat, 1963. 211 p. (MIRA 16:5)
(Electric railroads--Substations)]

LUK'YANOV, S.I., inzh.; ROGALEV, B.M., inzh.

Output and vacuum techniques in waste heat nonsurface evaporator
equipment on motorships. Biul. tekhn.-ekon. inform. Tekhn. upr.
Min. mor. flota 7 no.12:24-29 '62. (MIRA 16:11)

NOTKIN, Ye. M.; KUR, G. Ye.; ARONSHEYN, N. M.; Prinimali uchastiye:
KAMNEV, V. S.; SHASHIN, N. N.; TYURIN, V. I.; VENBRIN, V. D.;
DON-YAKHIO, I. A.; ABRAMOVA, Z. A.; VASIL'YEV, I. A.;
LUK'YANOV, S. K.

Automatic process for the manufacture of sand cores for radiators.
Sbor. trud. NIIST no.10:5-40 '62. (MIRA 15:10)

1. Moskovskiy chugunoliteynyy zavod imeni Voykova (for Kamnev,
Shashin, Tyurin, Venbrin).

(Coremaking) (Radiators)

NOTKIN, Ye.M.; KUR, G.Ye.; ARONSHTEYN, N.M.; prinalni uchastiye: KAMNEV, V.S.;
SHASHIN, N.N.; TYURIN, V.I.; VENBRIN, V.D.; MAREYEV, D.I.; VILENSKAYA,
I.A.; BORODIN, B.V.; DON-YAKHIO, I.A.; MOSKALENKO, S.M.; ABRAMOVA,
Z.A.; KLIMOV, M.D.; VASIL'YEV, I.A. LUK'YANOV, S.K.

Introducing automatic control in coremaking. Lit. proizv. no.6: 15-19
Je '62. (MIRA 15:6)

1. Nauchno-issledovatel'skiy institut santekhniki Akademii
stroitel'stva i arkhitektury SSSR (for Luk'yanov).
(Coremaking) (Automatic control)

GERASIMOV, A.G., kand.tekhn.nauk; TATSIYENKO, P.A., kand.tekhn.nauk;
LUK'YANOV, S.M., inzh.; RYBAKOV, V.N., inzh.

Industrial testing of iron-titanium-vanadium ores of the
"Lysanskiy" deposit. Gor.zhur. no.10:59-60 O '60. (MIRA 13:9)

1. Krasnoyarskiy zavod "Sibelektrostal'".
(Ilmenite--Analysis) (Mineralogy, Determinative)

UTKIN, N.I.; PYZHOV, G.S.; GRAYVER, P.M.; SMELYANSKIY, P.Ya.; BUSHKANETS, A.S.;
DOLENKO, V.N.; LUK'YANOV, S.M.

Results of plant tests on the deep removal of impurities from sodium
silicate slags. TSvet. met. 38 no.4247-46 Ap '65. (MIRA 18:5)

TYURENKOV, N.G., kand.tekhn.nauk; GERASIMOV, A.G., kand.tekhn.nauk;
LUK'YANOV, S.M.

Flowsheet used for the dressing of Korshunikha ores. Gor.zhur.
no.7:69-71 J1 '60. (MIRA 13:7)

1. Uralmekhanobr, Sverdlovsk (for Tyurenkov). 2. Zavod Sibeлектро-
stal', Krasnoyarsk (for Gerasimov, Luk'yanov).
(Korshunikha Valley--Iron ores)
(Ore dressing)

AKATOV, A.I.; Prinimali uchastiye: TATSIYENKO, P.A.; LUK'YANOV, S.M.;
KOSUL'NIKOV, M.D.; KUSOVA, T.A.; YEGOROV, N.A.

Efficient flow sheet for Lisakovka deposit ore dressing.
Obog. rud. 8 no.3:8-12 '63. (MIRA 17:1)

TIMOFEYUD, M. V., LUKYANOV, S. P.

Fishery Products

Mechanizing the conveyance of small fish by means of inert vibrators, Ryb. khoz.,
28 No. 3, 1952.

9. Monthly List of Russian Accessions, Library of Congress, July ¹⁹⁵² ~~1953~~, Uncl.

POLIBANOV, K.Ya.; LUK'YANOV, S.P.

Experience with coal storage on frozen ground. Ugol 29 no.9:
37-38 S '54. (MIRA 7:11)

1. Nii Gugar
(Coal--Storage)

LUK'YANOV, S.P.; POLIBANOV, K.Ya.

Spontaneous heating and combustion of coal in piles. Sakh.prom.30
no.2:49-51 P '56. (MIRA 9:7)
(Combustion, Spontaneous) (Coal--Storage)

LUK'YANOV, Stepan Petrovich; POLIBANOV, Konstantin Yakovlevich; DVORIN, S.S.,
redaktor; YABLOSKAYA, L.V., redaktor izdatel'stva; BERLOV, A.P.,
tekhnicheskij redaktor

[Long time storage of coal] Dlitel'noe khranenie uglei. Moskva.
Gos.nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii.
1957. 82 p. (MIRA 10:7)
(Coal--Storage)

LUK'YANOV, S.P.; KOLESNIK, Kh.L.

Fortieth anniversary of standardization in the chemical
industry. Khim. prom. 41 no.10:782 O '65.

(MIRA 18:11)

LUK'YANOV, S. V.

LUK'YANOV, S. V.--"Optimum Parameters for the Magnetic Circuits of Electrical Machinery with Permanent Magnets." Min Higher Education Ukrainian SSR. L'vov Polytechnic Inst. O'vov, 1955. (Dissertation for the Degree of Candidate in Technical Science).

So Knizhanay letopis'
No 2, 1956

Luk'yanov, S. V.

112-1-720

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957, Nr 1, p. 120 (USSR)

AUTHOR: Luk'yanov, S. V.

TITLE: Armature Reaction in Electrical Machinery with Permanent Magnets with Saturated Magnetic Circuits (Reaktsiya yakorya v elektricheskikh mashinakh s postoyannymi magnitami pri nasyshchennykh magnitnykh tsenyakh)

PERIODICAL: Nauch.zap. L'vovsk. politekhn. in-t, 1955, Nr 34, pp. 139-149

ABSTRACT: A graphical method of calculating the longitudinal armature reaction is given for an electrical machine with permanent magnets, saturated and unsaturated magnetic circuits on the assumption of a concentrated magnetic leakage of the permanent magnet. An equivalent circuit is suggested in the form of three parallel circuits for the effective flux (across the air gap and the stator) ϕ_a , for the leakage flux between the field poles ϕ_s and for the total magnet flux $\phi_m = \phi_a + \phi_s$. The magnetizing force of the magnet F_0 and the magnetizing force of the longitudinal armature reaction F_r are taken as the emf's acting in the circuits with the flux ϕ_m and ϕ_a . The reluctances of the circuits are marked R_a , R_s and R_m . The following relationships are derived on the basis of the

Card 1/2

112-1-720

Armature Reaction in Electrical Machinery with Permanent Magnets with Saturated Magnetic Circuits (Cont.)

equivalent circuit: $R_m = F_0 - \phi_m R_m = R_b \phi_b = \frac{R_b}{R_p} (\pm F_r)$, where

$$R_b = R_s \frac{R_a}{(R_s + R_a)}; \phi_b = \phi_a + \phi_s;$$

These relationships permit determining graphically on the demagnetization curve of the machine the operating points taking into account the action of the longitudinal armature reaction. In the case of unsaturated magnetic circuits ($R_a = \text{const}$, $R_s = \text{const}$) the structures are carried out with straight lines; in the case of saturated circuits ($R_a \neq \text{const}$, $R_s \neq \text{const}$), the structures are carried out by the same method as for the unsaturated machine, but the straight lines are replaced by corresponding curves. A reduction of the demagnetizing action of armature reaction is registered when the armature circuit is saturated and also a low dependence of armature reaction on the saturation of the dispersion.

V.S.M.

Card 2/2

Luk'yanov, S. V.

112-4-7597

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957, Nr 4,
p. 7 (USSR)

AUTHOR: Luk'yanov, S.V.

TITLE: Design of Permanent Magnets of a Variable Cross Section
(Raschet postoyannykh magnitov nepostoyannogo secheniya)

PERIODICAL: Nauch. zap. L'vovsk. politekhn. in-t, 1955, Nr 34,
pp. 151-159

ABSTRACT: A method of designing magnets of a variable cross section is discussed. The magnet is regarded as a source of magnetizing force. The magnitude of the magnetizing force is constant, but the internal reluctance, which is a function of the previous history of the magnet and of the method of magnetization, is variable. An equivalent circuit is drawn for the magnetic circuit. It was calculated according to design methods for nonlinear electrical circuits.

V.Ya Zh.

Card 1/1

8(0)

SOV/112-58-3-4096

Translation from: Referativnyy zhurnal. Elektrotehnika, 1958, Nr 3, p 91 (USSR)

AUTHOR: Luk'yanov, S. V.

TITLE: Computing the Optimum Dimensions of the Magnet for a Magnetolectric Generator With an Allowance for the Stator and Rotor Magnetic-Leakage Patterns (Raschet optimal'nykh razmerov magnita magneto s uchetom raspredelennosti rasseyaniya statora i rotora)

PERIODICAL: Nauchn. zap. L'vovsk. politekhn. in-t, 1956, Nr 40, pp 119-134

ABSTRACT: The magnetic circuit of a magnetolectric generator is a complex branched circuit that includes a permanent magnet. Despite the fact that a great number of articles have been devoted to the design of optimum magnet dimensions, no simple reliable method suitable for use under manufacturing-plant conditions has been suggested so far. An analytical method suggested in the article is based on determining the magnet dimensions in terms of the coordinates of point K (the origin of the return straight line on the magnetization

Card 1/2

8(0)

SOV/112-58-3-4096

Computing the Optimum Dimensions of the Magnet for a Magnetolectric

curve), i. e., H_{kk} and g (see figure) and the parameter λ^x which is equal to the ratio of H_0 (?); H_a and H_k are taken from the figure. With this method, the optimum magnet dimensions can be determined immediately, and its actual design dimensions can be found from a table that can be easily compiled from the above expression for magnet dimensions. This method, based on the analogy between the magnetic and electric circuits, is sufficiently simple and permits calculating the optimum magnet parameters with the required accuracy and with an allowance for the stator and rotor leakage patterns.

M. Z. B.

Card 2/2

FEDOROV, N.A.; DMITRIYEV, A.V.; LUK'YANOV, S.V.; KORNIYENKO, P.P.

Studying the process of the hydraulic fracturing of
coal seams. Nauch. trudy VNII Podzemgaza no.6:66-78
'62. (MIRA 15:11)

1. Laboratoriya gazifikatsii kamennykh ugley Vsesoyuznogo
nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii
ugley.

(Coal gasification, Underground)
(Hydraulic mining)

IMITRIYEV, A.V.; KORNIYENKO, P.P.; LUK'YANOV, S.V.; LEBEDEV, V.S.

The GPR-2 portable station for the control and regulation of hydraulic fracturing processes. Trudy VNIIPodzemgaza no.12: 130-134 '64. (MIRA 18:9)

1. laboratoriya gazifikatsii kamennykh ugley Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

CO
LUK'YANOV, S. Yu.

Production and properties of cesium photoelectric cells. P. V. Kiselev and S. Yu. Luk'yanov. *J. Tech. Phys. (U. S. S. R.)* 4, 1800-71(1934).—A vacuum 40-volt and a neon-filled 250-volt cell are described. The optimum Ag_2O layer with a thickness of 150 mμ, and a yellow-green color is made by about 70 discharges at 600 v. in 1.0 mm. O_2 . The Cs, prepd. either from $\text{CaCl}_2 + \text{Ca}$ or from $\text{Ca}_2\text{Cr}_2\text{O}_7 + \text{Al}$, by using three times that theoretically required for the reaction $2\text{Cs} + \text{Ag}_2\text{O} \rightarrow \text{Cs}_2\text{O} + 2\text{Ag}$, is distd. onto the Ag_2O film and the latter heated to 170-200° to "activate" the photoelement.
F. H. Rathmann

ASAC-11A METALLURGICAL LITERATURE CLASSIFICATION

FROM BOWLING

BOAST ONE ONE 191

The dependence of the emission of secondary electrons on the angle of incidence of the primary radiation. S. Yu. Nik. Yanov, and V. N. Bernatovich. *J. Exptl. Theor. Phys.* (U. S. S. R.) 7, 850-451 (1937); *Chem. Zentr.* 1937, II, 4104-5. — The relation between the coeff. σ of the secondary emission and the angle of incidence of the primary electrons on the surface of pure Ag, of Ag_2O , and of Ag - Cs_2O -Cs was investigated. The coeff. $\sigma = I_1/I_0$, where I_1 is the current from the auxiliary cathode, which consists of scattered primary electrons and secondary electrons, and I_0 the strength of the current made up of a stream of primary electrons. The expts. were carried out with electrons having an energy of 300-1500 v. The coeff. σ increases with the angle of incidence of the primary electrons and at an angle of 80° reaches a value 40% greater than that in the case of normal impact. The increase in σ is explained by the less deep penetration of the primary electrons into the inclined electrode, so that secondary electrons formed have more chance of emerging from the electrode. This is also shown mathematically, the equation in $\sigma = \ln B - (\frac{2}{3}) \tau \cos \phi$, being developed, in which $\sigma = I_1/I_0$ and B is a const., λ_0 the free wave length of the primary electrons, B a const., which is dependent on the energy of the primary electrons, and ϕ the angle of incidence. M. G. Moore

3

CA

the relation between the coefficients of secondary electron emission and the angle of incidence of the primary radiation. S. Yu. Luk'yanov. *J. Exptl. Theoret. Phys.* (U. S. S. R.) 7, 1416-17 (1937); *Chem. Zentr.* 1939, I, 1937; cf. *C. A. A.* 32, 7339¹, 8016².--The relation previously deduced (cf. *C. A. A.* 33, 6139¹) for the relation between the coeff. of secondary emission and the angle of incidence was checked against the exptl. data of Müller (*C. A.* 31, 4880¹). Good agreement was found between the theoretical and exptl. values. M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Secondary electron emission. I. S. Yu. Luk'yanyov, *J. Tech. Phys. (U. S. S. R.)* **8**, 671-60 (1938). A review of the mechanism of secondary emission, expl. methods, energy and angle distribution curves, coeff. σ of secondary emission, dependence of σ on energy and its abs. value for various pure metals, etc. S. L. Madorsky

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSING AND PROPERTIES INDEX																			
SA 2604. Dependence of the Coefficient of Secondary Emission on Angle of Incidence of the Primary Beam. S. J. Lukjanov. Phys. Zeits. d. Sowjetunion, 13, 1, pp. 123-126, 1938. In English.—The approximate formula, $\log \sigma = \log B - 2/\beta \gamma \cos \phi$ is applied to many substances, where σ is the coefficient of secondary emission of electrons, ϕ the angle of incidence of the primary beam and B and γ constants. The value of the parameter γ varies for different metals, being larger for lighter ones. Using the Thomson-Whiddington formula $\gamma = \beta V_0^2/a$ where V_0 is the initial energy of the primary electrons, the theoretical value of γ is calculated from known values of β and a. For Ni this is seen to be in fair agreement with values obtained by consideration of the angle of incidence. H. M. B.																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION										E-2									
SECOND HALF ONLY SEE										FIRST HALF ONLY SEE									
MATERIALS MOBILE										CROSS REFERENCE									

Quantum yield of antimony-cesium [photo-] cathodes.
S. Yu. Luk'yanov. *J. Tech. Phys.* (U. S. S. R.) 9,
1175-6 (1939). — From the relative spectral sensitivity I
and the abs. integral sensitivity I the yield was calcd.;
it was 0.3 electron per quantum, i. e., higher than any
other yield recorded. I had a max. at 420 m μ . I was
40-50 microamp./lumen, when the temp. of the irradiation
was 2520° K. I. I. Bikerman

LUK'YANOV, S. YU.

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<i>Semiconductor properties of antimony-cesium cathodes. S. Yu. Luk'yanov and I. S. Mazover. J. Exptl. Theoret. Phys. (U. S. S. R.) 9, 1460-66 (1968).--Exptl. data show that the elec. cond. of an antimony-cesium cathode with Sb:Cs = 1:6 is a function of temp. according to the equations $\sigma = \sigma_0 e^{-U/kT}$ or $\ln \sigma = f(1/T)$; U is 0.67 e. v. The cond. is proportional to the thickness of the Cs-Sb layer. The sp. resistance is 10 Ω at 18°. From the properties of the cathode and from a chem. analysis of the surface layers it is concluded that a compd. $SbCs_6$ is present and that the excess Cs is internally adsorbed and acts as an electron donor in the semiconductor. Validity of Ohm's law for semiconductors. I. S. Mazover. <i>Ibid.</i> 1460-8.--The elec. cond. of Sb-Cs layers was detd. at various temps. The straight-line equation $\ln (\sigma_0/\sigma) = U/kT$ is found to apply, with $U = 0.55$ e. v. The deviation from Ohm's law usually found in Sb-Cs layers is apparent only, and is due to local Joule thermal effects.</i> P. H. Rathmann																																																			

Industrial Inst. + Cinema Engineering Inst., Leningrad

ALPHABETIC INDEX																										NUMERIC INDEX																									
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<i>ca</i> Action mechanism of antimony-calcium photocells. S. Yu. Luk'yanov, N. N. Lusheva and I. S. Mazover. <i>J. Tech. Phys.</i> (U. S. S. R.) 9, 1808-11 (1939).-- In order to decide between the theories of Lusheva (<i>Ibid.</i> 7, 1808 (1937)) and Zaitsev (<i>C. A.</i> 33, 7673?) the following observations were made. When the applied voltage increases, the photocurrent reaches a const. value if the sensitive layer is deposited on a metal, and increases indefinitely if the underlying material is glass. Two terminals used for carrying away the photocurrent give at low voltages a greater, and at high voltages a smaller, current than one terminal does. Irradiation of the sensitive layer between the terminals seems to reduce its elec. resistance but the addnl. current flows through the gas and can be deflected by a magnet. The interpretation of Zaitsev is not satisfactory. J. J. Bikerman																																																			
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COMMON ELEMENTS										COMMON VARIABLES INDEX									
1ST AND 2ND GROUPS										3RD AND 4TH GROUPS									
CA										4									
Vacuum photocells. S. Yu. Luk'yanov. <i>J. Tech. Phys. (U. S. S. R.)</i> 19, 3-34 (1943).--A review of the modern vacuum photocells covering the construction of cells with O-Cs and Sb-Cs cathodes. Optical and elec. characteristics, selective and integral sensitivity, volt-amp. characteristics, life, temp. dependence, etc., are discussed. Various com. applications of vacuum photocells are indicated. Roksalana Gamow																			
ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION																			
FROM SYNONYM										FROM SYNONYM									
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1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
CA										3									
Secondary electron emission of solids. S. Yu. Luk'yanov, <i>Bull. acad. sci. U.R.S.S., Ser. phys.</i> 8, 330-9 (1944).—General discussion of contemporary exptl. data on secondary emission of electrons from solids. All metals have a low coeff. of secondary emission with max. limits being within the factor of 3 of each other. There is no direct connection between this and the escape function or the number of atoms per unit vol. Semiconductors generally have higher emission than the metals, in part due to low concn. of cond. electrons in such materials, although this is modified by the relative magnitude of excitation energy of the bound electron and the magnitude of the escape function. In semiconductors and dielectrics the normal effect may be masked by the secondary effects resulting from formation, by electron bombardment, of space charges of considerable magnitude. G. M. K.																			
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507 511 2074
On the Secondary Electron Emission of Solid
Bodies. S. Lukyanov. (*J. Phys., U.S.S.R.*, 1945,
Vol. 9, No. 1, p. 61). The emission is affected by
(a) the total energy loss per unit length suffered by
the primary particle, and (b) the range of the
secondary electron in the given substance. The
mean energy of formation of secondary electrons
is estimated (in aluminium $E \sim 15$ eV). The small
emission of pure metals and the high emission of
certain non metals are discussed. Abstract of a
paper of the Acad. Sci., U.S.S.R.

LUK'YANCV, S. YU.

FA 53T24

USSR/Electronics
Electrons - Emission
Ions

Dec 1947

"Soviet Electronics for Thirty Years," S. Yu. Luk'-
yanov, 21 pp

"Uspekhi Fiz Nauk" Vol XXXIII, No 4

Discusses work done in field of electron and ion
emissions (photoeffect, thermo- and auto-electron
emissions, secondary emissions, surface ionization
and other types of ion emissions); electron and ion
optics; and investigations of basic properties of
electrons and ions.

LC

53T24

CHECKIK, N.O.; FAYNSHTEYN, S.M.; LIFSHTS, T.M.; LUK'YANOV, S.Yu.,
redaktor; STAROKADOMSKAYA, Ye.L., redaktor; MORASHOVA, N.Ya.,
tekhnicheskiy redaktor

[Electron multipliers] Elektronnye umnozhiteli. Pod red. S.IU.
Luk'ianova. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1954.
420 p. (MLRA 7:9)
(Photoelectric multipliers)

LUK'YANOV, S. Yu.
USSR/Physics - Neutrinos

Card 1/1 Pub. 118 - 1/8

Authors : Zel'dovich, Ya. B.; Luk'yanov, S. Yu.; and Smorodinskiy, Ya. A.

Title : Properties of a neutrino and the double β -decomposition

Periodical : Usp. fiz. nauk 54/3, 361-404, Nov 1954

Abstract : Experimental and theoretical studies of neutrino properties (indivisibility, evenness, spin and mass) are described. The reactions ($n \rightarrow p + e^- + \bar{\nu}$ and $p \rightarrow n + e^+ + \nu$) leading to the formation of neutrinos are analyzed in the light of the quantum theory with application of Pauli's matrix transformations for the Dirac equation describing the wave function ψ . The probability of a double β -decomposition (simultaneous formation of $\bar{\nu}$ & ν) is theoretically established and experiments performed by various investigators with the help of analyzers and the method of scintillations are described and analyzed. Thirty-nine references 3-USSR (1935-1954). Tables; graphs; diagrams.

Institution : ...

Submitted : ...

LUK'YANOV, Stepan Yur'yevich, doktor fiziko-matematicheskikh nauk,
professor; KIPNIS, S.Ye., redaktor; FURMAN, G.V., tekhnicheskii
redaktor.

[Basic concepts of experimental nuclear physics] Osnovnye predstavleniya eksperimental'noi iadernoi fiziki. Moskva, Izd-vo Znanie", 1955. 39 p. (Vsesoiuznoe obshchestvo po rasprostraneniю politicheskikh i nauchnykh znaniy Ser. 3 no. 40) (MLRA 8:12)
(Nuclear physics)

LUK'YANOV, S. Yu.

USSR/ Nuclear physics - History

Card 1/1 : Pub. 86 - 2/39

Authors : Luk'yanov, S. Yu., Prof.

Title : Basic notions of experimental nuclear physics

Periodical : Priroda 44/3, 11 - 37, Mar 1955

Abstract : A short history of experimentation in nuclear physics is given. The generally known principles of this branch of science are explained under the headings: "Atoms are Not Immortal," "The Nucleus of the Atom," "Modern Nuclear Alchemy," "The Particle without an Electric Charge," "Liberating the Nuclear Energy," and "New Elementary Particles," Illustrations; tables.

Institution :

Submitted :

Luk'yanov, S. Yu.

C-5

Category : USSR/Nuclear Physics - Nuclear Reactions

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6075

Author : Artsimovich, L.A., Andrianov, A.M., Dobrokhotoy, Ye.I.,
Luk'yanov, S. Yu., Podgornyy, I.M., Sinitsyn, V.I., Filippov, N.V.

Title : Hard Radiation from Pulse Discharges.

Orig Pub : Atom. energiya, 1956, No 3, 84-87

Abstract : It was observed that high-power pulse discharges in light gases can be sources of hard radiation. In 1952 the authors detected neutron radiation accompanying pulse discharges in D_2 . The discharges were carried out in cylindrical tubes 20 -- 40 cm in diameter, 50 -- 100 cm long. The current reached several hundreds of kiloamperes, and its rate of rise amounted to 5×10^{10} -- 1.5×10^{11} amp/sec. Silver targets were placed in paraffin blocks and scintillation counters were used to count the neutrons. In discharge tubes with porcelain walls, neutron emission is observed if the initial pressure of D_2 ranges from 0.01 to 0.3 mm Hg, while in tubes with metal side-walls the emission is observed up to 10 mm. At a maximum

Card : 1/2

Luk'yanov, S.Yu.

C-5

Category : USSR/Nuclear Physics -- Nuclear Reactions

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6076

Author : ~~Luk'yanov, S.Yu.~~ Sinitsyn, V.I.

Title : Spectroscopic Investigation of High Power Pulse Discharge
in Hydrogen.

Orig Pub : Atom. energiya, 1956, No 3, 88-96

Abstract : Description of an experimental spectroscopic investigation of a high power pulse discharge in hydrogen. The discharge was produced in a glass cylindrical chamber with inside diameter 185 mm, filled with hydrogen at a pressure 0.04 -- 5 mm mercury. The maximum discharge current reached 270 -- 300 kiloamperes, the duration of the first half cycle was approximately nine microseconds. The spectroscopic measurements were carried out in two methods: photographic and photoelectric. The ISP-51 spectrograph was used to photograph visible region of the discharge spectrum. The time variation of the intensity of the various spectral lines were recorded with the aid of a UM-2 monochromator with a special attachment containing a FEU-19M photomultiplier. Characteristic photographs of the spectrum

Card : 1/2

LUK'YANOV, S. YU.

0-5

Category : USSR/Nuclear Physics - Nuclear Reactions

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6077

Author : Luk'yanov, S. Yu., Podgornyy, I.M.

Title : Hard X-rays Accompanying a Discharge in Gas.

Orig Pub : Atom. energiya, 1956, No 3, 97-106

Abstract : It is shown that a high-power pulse discharge can be accompanied under certain conditions by X-rays. A discharge in a porcelain tube with inside diameter 175 mm and 1,000 mm in length was produced with a 36-microfarad capacitor bank. To record the soft radiation, openings were made in the walls of the tube, into which there were placed measuring cartridges, covered with a thin aluminum foil, and containing luminescent crystals connected by means of plexiglass light pipes to the cathodes of photomultipliers. The hard portion of the radiation was recorded by scintillation recorders placed outside the discharge chamber, as well as by X-ray films and thick-emulsion electron-sensitive photo emulsions. Typical oscillograms are given of the X-ray pulses, synchronized with the current and voltage oscillograms of the discharge.

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Lukyanov, S. Yu.

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PENETRATING RADIATION FROM PULSE DISCHARGE

L. A. Arslanovich, A. M. Andrianov, E. I. Dobroshchov,

S. Yu. Lukyanov, I. M. Podgorov, V. I. Stetsyu, and N. V.

Filippov. Soviet J. Atomic Energy, No. 3, 375-1(1956)

Results are presented of an investigation of the neutron radiation detected in pulse discharges in deuterium, as well as some data on the penetrating α radiation that arises in such discharges in light gases (auth)

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LUK'YANOV S. Yu.

3601

SEARCH FOR DOUBLE β DECAY IN Ca^{48} *Y. I. Dobrokhotov, V. R. Lazarenko, and S. Yu. Luk'yanov* Doklady Akad. Nauk S.S.S.R. 110, 966-9 (1958) Oct. 21. (in Russian)

Two sets of disks prepared by compression of the CaF_2 dust into disks 33 mm in diameter were used. One pair of specimens was enriched with Ca^{48} (up to 76.2%) containing 423 and 259 mg of Ca^{48} , respectively; the controlling pair was enriched with Ca^{44} (94.7%) and Ca^{42} (99.9%). The measurements were taken by method of coincidences on the specimens placed between two scintillation counters surrounded by a liquid scintillator. Two installations, one 33 m underground and the other on the surface surrounded by a layer of lead (15 cm) and steel (3 cm) were used for the experiment. The scheme of the installations and the table of resolving number of impulses of coincidences per 100 hr in the interval of 3.2 Mev are shown. (R. V. J.)

*Hea
Sci*

*Tom / pm
fig*

3

LUK'YANOV, S. Yu. [Prof] and ARTSIMOVICH, L. A. [Acad]

"Thermonuclear Reactions; The Search for Controlled Thermonuclear Reactions," Priroda, No. 1, pp. 18-25, 1957.

Translation W-3,053,670

LUK'YANOV, S. Yu.

56-7-1/66

AUTHOR ARTSIMOVICH, L.A.; LUK'YANOV, S. Yu., PODOBNOV, I.M., CHUVATIN, S.A.

TITLE Electrodynamical Acceleration of Plasma Bundles.
(Elektrodinamicheskoe uskoreniye sgustkov plazmy)

PERIODICAL Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol 35, No 7, pp 3-8 (U. S. S. R.)

ABSTRACT In a vacuum chamber two rail electrodes, which are not connected and are parallel to each other, are fitted; they are earthed over a condenser (75 μ F) and a sphere gap. If, between these two electrodes, a thin copper wire is smelted explosionlike, the plasma bundle produced will move with a certain velocity. This velocity is measured by means of a rapid-action camera (2.10⁶ picture per second, time of exposure 0,2 μ S) or by means of 2 magnetic inductors. If a copper wire of 0,02 mm thickness is burned with 30 KV, the plasma bundle has a velocity of (1-2).10⁷ cm/sec at a distance of 30 cm from the place of the explosion. Thus it was possible to show that a plasma bundle can be electrody-
namically accelerated.
(8 Slavic references)

ASSOCIATION Institute for Atomic Energy (Institut atomnoy energii)

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SUBMITTED 19.6.1957

AVAILABLE Library of Congress.

Card 1/1

LUK'YANOV, S.Yu.; SINITSYN, V.I.

Spectroscopic investigations of a high-power impulsive discharge in hydrogen. Fiz.sbor. no.4:71-73 '58. (MIRA 12:5)

1. Laboratoriya izmeritel'nykh priborov AN SSSR.
(Hydrogen--Spectra) (Electric discharges through gases)

Stepan Yur'yevich (Prig)
LUKYANOV, S. Y., SINTSYN, V. I. and KOGAN, V. I.

"Spectroscopic Investigation of Strong Pulse Discharges."

paper to be presented at 2nd UN Intl. Cong. on the peaceful uses of Atomic
Energy, Geneva, 1 - 13 Sep 58,

LUK'YANOV, S.Yu.

21(7)

PHASE I BOOK EXPLOITATION

SOV/1241

Akademiya nauk SSSR. Institut atomnoy energii

Fizika plazmy i problema upravlyayemykh termoyadernykh reaktsiy, t.I.
(Plasma Physics and the Problem of Controlled Thermonuclear
Reactions, v. 1) [Moscow] Izd-vo AN SSSR, 1958. 300 p.
3,000 copies printed.

Resp. Ed.: Leontovich, M.A., Academician.

PURPOSE: This collection contains previously unpublished work of members
of the Institut atomnoy energii (Institute of Atomic Energy) of
the Academy of Sciences of the USSR. It is intended for scientists
interested in this field.

COVERAGE: This book is the first of four volumes of a collection of
articles on theoretical and experimental investigations of problems
of controlled thermonuclear reactions and associated questions of
plasma physics. The research reported on was conducted during 1951-
1958 at the Institute of Atomic Energy. Only papers not previously

Card 1/6

Plasma Physics and the Problems (Cont.)

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published are included in the collection. The articles are arranged in basically chronological order.

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Sakharov, A.D. Theory of the Magnetic Thermonuclear Reactor (Part II)	20
Tamm, I. Ye. Theory of Magnetic Thermonuclear Reactor (Part III)	31
Andrianov, A.M., O.A. Bazilevskaya, S. Yu. Luk'yanov, S.M. Osovets, Yu. F. Petrov, I.M. Podgornyy, and N.A. Yavlinskiy. Investigation of the Heating of Hydrogen Plasma in Small Toroidal Systems (1951)	42

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AUTHORS: Luk'yanov, S. Yu., Sinit'syn, V. I. 56-34-4-10/60

TITLE: Spectroscopic Investigations of a Powerful Pulse Discharge in Hydrogen. II (Spektroskopicheskiye issledovaniya moshchnogo impul'snogo razryada v vodorode. II)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 34, Nr 4, pp. 849 - 855 (USSR)

ABSTRACT: The author investigates the spectral properties of the radiation of a hydrogen plasma of a gaseous discharge at low pressure at amperages unto $5 \cdot 10^5$ amperes by means of the method of the mirror unfolding. The method used here permits to investigate the discharge spectrum in the visible range. The experimental conditions were already previously described by the authors (Ref 1). The impulse device consisted of a capacitor battery with $86 \mu F$ capacitance and of a discharge tube made of farfor. Also the determination of the development of the spectrum with respect to time is discussed in short. The image of the development of the spectrum with respect to time allowed a synchronisation with the course of the discharge current. A diagram illustrates

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Spectroscopic Investigations of a Powerful Pulse Discharge in Hydrogen. II

the development with respect to time of the discharge spectrographs for some particularly characteristic cases. The first 2 spectrographs refer to a discharge in pure hydrogen at the initial pressures $p_0 = 0,05$ and $p_0 = 0,1$ torr. Two further spectrographs refer to mixtures of 95 % H_2 + 5 % N_2 and 70 % H_2 + 30 % He. If the discharge takes place in pure hydrogen the lines of the admixture atoms occur only after the second compression. If the discharge, however, takes place in a mixture of hydrogen with helium or nitrogen in the moment of the maximum constriction of the plasma thread a short flashing of spectral lines in the spectrograph is observed, which is not characteristic of the following states of the discharge. These lines are to be ascribed to nitrogen or helium in relatively highly excited states. Altogether the totality of the obtained optical data gives an agreeing image of the phenomena which take place in a pulse discharge of high power. There are 5 figures, 2 tables, and 7 references, 5 of which are Soviet.

SUBMITTED: November 26, 1957
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AUTHORS:

Granovskiy, V.L., Luk'yanov, S.Yu., Spivak, G.V. and
Sirotenko, I.G.

TITLE:

Report on the Second All-Union Conference on Gas
Electronics

PERIODICAL:

Radiotekhnika i elektronika, 1959, Vol 4, Nr 8,
pp 1339 - 1358 (USSR)

ABSTRACT:

The conferences was organised by the Ac.Sc.USSR, the
Ministry of Higher Education and Moscow State University.
It was opened by the chairman of the organising committee,
M.A. Leontovich, Academician. During the plenary sessions
of the conference, a number of survey papers were delivered.
L.A. Artsimovich read a paper on "Production of Ultra-high
Temperatures in Plasma".

A survey of the optical method of measurements was given
in the papers by V.A. Fabrikant and S.E. Frish.
S. Brown of the Massachusetts Institute of Technology
gave a survey of the high-frequency methods of the investi-
gation of stationary and non-stationary plasma (see p 1244
in this issue of the journal).

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N.V. Fedorenko read a paper entitled "Ionisation and
Inelastic Scattering During Atomic Collisions". X